

Yilong Li

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Education

- Fall 2012–Present **The University of Illinois at Urbana-Champaign, IL.**
B.S. in Computer Science, *GPA 4.0*
Graduate-level courseworks: *Programming Language Semantics, Object-Oriented Programming and Design, Advanced Topics in Software Engineering*
Senior thesis: *Semantics-based Test Generation in the K Framework (in progress)*
Advisors: Prof. Grigore Rosu and Prof. Darko Marinov
- Fall 2011–Spring 2012 **Stony Brook University, NY.**
Visiting Student in Computer Science, *GPA 4.0*
- Fall 2009–Spring 2011 **Harbin Institute of Technology, Harbin, China.**
Undergraduate Honor Program in Computer Science, GPA 88/100

Publications

- ECOOP 2013 Milos Gligoric, Farnaz Behrang, Yilong Li, Jeffrey Overbey, Munawar Hafiz, Darko Marinov. *Systematic Testing of Refactoring Engines on Real Software Projects*. European Conference on Object-Oriented Programming, pages 629-653, Montpellier, France, July 2013

Professional Experience

- Fall 2013–Present **Undergraduate Researcher, FORMAL SYSTEMS LAB, UIUC.**
Contributing source code and detailed documentation to the rewrite engine of the K framework.

Research Experience

- Fall 2013–Present **Senior thesis with Prof. Grigore Rosu.**
Developing semantics-based test generation tool as part of the K framework (<http://www.kframework.org>). Given the operational semantics of a programming language L defined in K, our approach derives valid programs of L directly from the semantics and aims to maximize some coverage criterion defined on the semantics rules, e.g., covering the combination of any three rules in the language semantics. The generated programs can be used to create conformance test suite for the compilers.
- Summer 2013 **Research Intern, FORMAL SYSTEMS LAB, UIUC.**
Advisors: Prof. Grigore Rosu and Prof. Darko Marinov
Worked on the project of semantics-based test generation. Developed a prototype tool in *Curry*, a functional logic programming language, that automatically derives subset of C programs from operational semantics.

- Spring 2013 **Individual study with Prof. Darko Marinov.**
 Worked on minimizing failure-inducing input. To the best of our knowledge, we have developed the first tool that support minimization of an input consisting of multiple entities with arbitrary dependencies.
- Fall 2012 **Individual study with Prof. Darko Marinov.**
 Worked with Milos Gligoric on systematic testing of refactoring engines using real software projects. We found 77 new bugs in the Eclipse Java refactoring engine. Work resulted in a conference paper. Our results are available online:
<http://mir.cs.illinois.edu/~gliga/projects/rtr>

Service

External Reviewer ASE 2013, ICSE 2014

Presentations

- Spring 2013 Presented a poster titled *Constraint-based Minimization of Failure-inducing Test Inputs* in the *CS Research Symposium*.
- Spring 2013 Presented and lead the discussion on *Delta Debugging* in *CS591 Software Engineering Seminar*.

Awards

- Spring 2013 *Dean's List*, University of Illinois at Urbana-Champaign
- Fall 2011–Spring 2012 *Outstanding Academic Achievement Award (GPA 4.0)*, Stony Brook University

Technical Skills

- Programming Java, C/C++, Python, Smalltalk, Haskell, Curry, SML/OCaml, Maude, K, HTML, SQL, Bash, \LaTeX
- Software Eclipse Java development tools (JDT) for program analysis and transformation, DART/CUTE/KLEE for dynamic test generation, JavaCC, ANTLR
- Development Tool Eclipse, IntelliJ, SVN, Git, Mercurial, Ant, Jenkins
- Operating System Windows, Linux